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From the Maine Farmer.

ESSAYS ON THE GRAIN WORM.

NO. III.

WINTHROP, JAN. 1, 1837.

Messrs Trustees of the Kennebec Co. Agricultural Society :—GENTLEMEN: The recent appearance of the Grain Worm, among us, and the short time allotted for persons to hand in the observations which they may have made for the consideration of the Trustees, do not permit the exhibition of so many well established facts upon the subject as it is desirable should be upon one of such great importance to the community.

The GRAIN WORM is the product of a slim or slender and delicately formed fly. This fly lodges its egg in the husk, or rather between the valves of the wheat when in blossom. This egg hatches into a small yellowish worm or maggot. This worm attaches itself to the growing kernel, and sucks from it all the milk or pulp, and prevents its growth. A shrivelled and worthless grain is the consequence.

After it has arrived to maturity, its forms a crysalis in the place where it has lived, from which it ir dislodged, either by the ordinary process of thrashing, or by the ripening and shelling out of the grain. It is not certain that it invariably remains in the husks of the wheat to form the crysalis. On the ninth of August last, there was a warm rain, and it was observed that immense numbers of these worms were crawling out of the wheat, and apparently seeking shelter somewhere else. But it has not been certainly ascertained whether they actually went down into the ground to put themselves into the preparatory condition for a change into the fly.

Yet it is certain that immense quantities of them were in the wheat during the last harvest, and covered the thrashing floors, being blown out with the chaff.

It has not yet been ascertained what length of time the insect remains in the crysalis state. There is little doubt, however, that it continues in the dormant state during the winter, and even through the spring, until near the time when the wheat is in blossom. It is at this time that the fly is first seen. It is soon after this that the worm is seen, and the crysalis has been observed in the chaff late in the fall, and it is contrary to all the laws of nature as applying to most insects which undergo these three transformations, to come into the fly state during or at the beginning of our winters.

The insect in question, has received the name of weevil. This is incorrect, and leads many to wrong opinions in regard to its nature. The weevil is an insect which infests some countries, and is exceedingly mischievous among grain after it is put into the bin, by eating into the dry grain, and devouring the farinaceous parts. But the Grain Worm does all its mischief while the grain is in the milk state, and as its get through this stage, or grub state, by the time the grain is ripe, and becomes dormant previous to changing to the perfect state, it can do no damage to the grain after it becomes hard.

That there is a particular time when the fly does and must deposit the egg that produces the worm, is certain. This is corroborated by observation, and the fact that late sown grain was not injured by them, while the early sown was. After the warm rain above mentioned, on the 9th of August, when so many of them left the heads, no new heads were injured, or no new depredations were committed by them.

Many have supposed this insect to be identical with the small worm that is found in the heads of clover, and is seen spinning down from lofts or mows where clover has been stowed away. The cold seasons having retarded the blossoming of the clover, the worms have taken the wheat as a substitute. However, this may be, we are certain that the grain worm, or clover worm, if clover worm it be, is not alone in its multiplication.

The cut worm has become more numerous of late, as also the white headed worm and grasshoppers. The cause of this must be sought for in the state of the weather or seasons. Ever since the winter of 1830 and '31, the ground has been long covered with snow. Even our January thaws have not much reduced the covering of snow upon the ground, so that the ground has remained in one state, or has not often thawed and frozen during the winter, and the worms or grubs not disturbed. When there shall come a winter in which the ground shall be often thawed and frozen, so that the germ, or whatever produces the fly, shall be disturbed, it will very probably diminish their numbers very much. Warm weather, it is well known, is most congenial to insects; yet they do not increase in exact ratio to the warmth of climate.—Why not? Because the winters being more open or freezing and thawing, more frequently kills them.

The present increase of the grain worm must be a multiplication of them, for I hold that there has been no new creation since the first six days, and if so the causes above mentioned must have brought it about. Having multiplied they must spread in a corresponding ratio to previous numbers in such situations as are congenial to them.

We first heard of them several years ago in Vermont State, and they have travelled North and East, ever since. Thus it seems, their first increase was where the ground was covered early in the fall and late in the spring, and exactly where, according to my theory, they ought to have begun. As far as I can learn, they are not much known on the sea board, where the snow does not lay on long or but a short time in the winter.

In regard to remedying the evils of this insect, it must be pretty much or wholly, on the preventive plan. I think that lime or ashes, put upon the soil in sufficient quantities to make it disagreeable to the worm, must be a good mode of preventing its increase.

From the fact that late sown grain has wholly escaped, it must be evident, that sowing late so as to bring the time of blossoming beyond the time of the fly's hatching, will prevent the mischief.

Sowing also, on high or elevated, and airy situations, where the breezes will agitate the grain, will also prevent their operations in a great degree.

Respectfully Yours, ELIJAH WOOD.

GREEN CORN PUDDING.—This is one of the few "delicacies of the season," which are peculiar to our townsfolk. It has been a favorite dish, from time immemorial—a knowledge of its composition and manufacture having been originally derived from the tawny natives among whom our ancestors squatted down two hundred years ago. Visitors to this place during the corn season, are often regaled, of course, with this sort of fare—the memory of the flavor of which abideth with them long after their departure hence. For this reason, much anxious researches among city housewives, for a correct prescription in the premises, has been known to have occurred. "My dear lady Adams, can you inform me how those Nantucket barbarians contrive to concoct their corn-puddings?"—"Pray, Mrs Clay, or Miss Van Buren, tell me the *modus operandi* of the corn-pudding miracle! I am longing for another taste of that most savory compound, so deliciously fabricated by those unsophisticated females out there in that Island of Wotchukollit." And there is no end also to the epistles on this subject which are annually poured in upon us during dog-days, evidently from the very fairest of correspondents—all imposing upon us the sweetly grateful obligation of sending them, respectively, a code of directions.

That we might be enabled to fulfil our whole duty towards every applicant at the same moment, we have procured from a sympathising friend the annexed recipe, which may be relied on as the real Simon-pure—the primitive, orthodox, corn-pudding cannon—*q. e. d.*:

Rules for makyng, cookyng, and eatyng Corn Puddyng.—Gather ye corne in ye milke, when neither too younge nor too ripe. Shell, cut, or scrape ye corn from ye cob, and pound it fine in a big mortar, with a heavy pessle. To ye corne of foure dozen ears, add one pint of milke, and half a pounde of sugar—the whole to be mixt together, and baked about two houres, till ye crust shall showe a darke browne complexyon. It is to be eaten with fresh butter laide thereon—to which some adde a sprinklyng of pepper. The addition of eggs doth not helpe ye puddynge. Boyled corne puddyngs are softer, but not so goode.—*Nantucket Inquirer.*

The different species of trefoil always contract their leaves at the approach of a storm: hence these plants have been termed the Husbandman's Barometer.

From the Library of Useful Knowledge, Farmers Series.

FLEMISH HUSBANDRY.

The poor sandy heaths, which have been converted into productive farms, evince the indefatigable industry and perseverance of the Flemings.—They seem to want nothing but a space to work upon; whatever be the quality or texture of the soil, in time they will make it produce something. The sand in the Campine can be compared to nothing but the sands on the sea shore, which they probably were originally. It is highly interesting to follow, step by step, the progress of improvement. Here you see a cottage and rude cow-shed erected on a spot of the most unpromising aspect. The loose white sand blown into irregular mounds is only kept together by the roots of the heath: a small spot only is levelled and surrounded by a ditch; part of this is covered with young broom, part is planted with potatoes, and perhaps a small patch of diminutive clover may show itself; but there is a heap of dung and compost forming. The urine of the cow is collected in a small tank, or perhaps in a cask sunk in the earth; and this is the nucleus from which, in a few years, a little farm will spread around.

In another spot more extensive improvements are going on; a wealthy proprietor or lessee is trenching and levelling the surface, sowing broom-seed, and planting young fir trees, which are to be cut down in a few years. In another, the process has gone on further, the firs or the broom are already cut down: a vein of loam has been found, and is dug out to be spread over the sandy surface: the cart with liquid manure is preparing the surface for the reception of seed, or the same, diluted with water, is poured over the young blade just appearing above ground. The soil is created, and, if the cost and labor were reckoned, is paid for at a dear rate; but perseverance insures success, and there are few instances of improvements being abandoned, after they are fairly begun, unless they were undertaken on too large a scale; but then the land is soon divided into smaller portions, and improvements go on from different centres, and with more certainty.

We are here describing the labor of bringing a soil absolutely barren into a state of cultivation; but in most of the districts which have been originally waste and covered with heath, and which are now fertilized, a less ungrateful soil was found. Deep trenching and levelling at once presented a surface which required only to be manured to produce rye, flax, and potatoes. This is what we should call a moderately good sand, in which a small portion of clay and oxide of iron produces a certain degree of compactness, so as at least to retain moisture: under this kind of sand a stratum of loam is usually found at the depth of two or three feet, and, almost invariably between the sand and the loam, an indurated crust of earth cemented by carbonate of iron, which is well known to all improvers of poor sands by the name of the *iron pan*; this pan must be broken up and the loam under it mixed with the sandy surface, before any cultivation can succeed; and in this operation the Flemings are very dexterous. The instrument they use is a light wooden trenching spade, the end of the blade only being shod with iron: the handle of this spade is about two feet long, the blade from twelve to fifteen inches. A light pick-axe is used to break the pan where it appears. A ditch is dug with the trenching spade, two or three feet wide, and as deep as the trenching is intended, generally two feet, or at least twenty inches; this ditch is filled with the earth which is taken in long thin slices from the edge of the solid side of the ditch. Every slice is distributed carefully, so as to mix the whole, and keep the best soil at top, and likewise to fill up hollows and level eminences. If there is more than can conveniently be spread level, little heaps are made of the superfluous earth, which are afterwards carried, in an ingenious manner, to fill up more distant hollows, by means of horses and an instrument which is called a *mollebart*. Wherever there is a pan it is carefully broken, and the loam, which is always found under it, is mixed with the sand dug out. Draining is seldom required here, except that which is effected by making deep ditches to carry off the superfluous rain water, which, in a country almost as level as a lake, is no great difficulty. A canal near at hand is, however, an essential condition of extensive improvement, to bring manure, and carry off the produce of the land, as well as to be an outlet for the water in the ditches. When Count Chaptal traversed a barren part of Flanders, accompanying the Emperor Napoleon, the latter expressed his surprise, at a meeting of the Council of the Department, that so great a tract of land remained uncultivated in so industrious a nation. The answer was, 'If your majesty will order a canal to be made through this district, we pledge ourselves that in five years it will be all converted into fertile fields. The canal was ordered to be made without delay, and in less time than they promised not an unproductive spot remained.—(See Chaptal, 'Chimie Appliquee à l'Agriculture,' vol. i. p. 347.)—One great cause of the agricultural prosperity of Flanders is the ready transportation of manure and produce by canals. But to return to the newly trenched land. If there is no manure at hand, the only thing that can be sown on poor sand, at first, is broom; this grows in the most barren soils; in three years it is fit to cut, and produces some return in fagots for the bakers and brick-makers. The leaves which have fallen have somewhat enriched the soil, and the fibres of the roots have given a certain degree of compactness. It may now be ploughed and sown with buckwheat, or even with rye without manure. By the time this is reaped some manure may have been collected, and a regular course of cropping may begin.—As soon as clover and potatoes enable the farmer to keep cows and make manure, the improvement goes on rapidly; in a few years the soil undergoes a complete change: it becomes mellow and retentive of moisture, and enriched by the vegetable matter afforded by the decomposition of the roots of clover and other plants. It is surprising that so few sheep should be kept on these new farms.—Sheep folded would do good by their tread, as well as their manure, but the management and feeding of sheep is a part of husbandry in which the Flemings, with very few exceptions, are decidedly as much behind our light land farmers, as they are before us in the feeding of their cows, and preparation and economy of manure.

If about twenty small cart-loads of dung can be brought on each acre of the newly trenched ground, the progress is much more rapid. Potatoes are then the first crop, and generally give a good return.—The same quantity of dung is required for the next crop, which is rye, in which clover is sown in the succeeding spring; and a small portion is sown with carrots, of which they have a white sort, which is very productive and large in good ground, and which, even in this poor soil, gives a tolerable supply of food to the cows in winter. Should the clover fail, which sometimes happens, the ground is ploughed in spring and sown with oats and clover again. But if the clover comes up well amongst the rye stubble, it is cut twice, after having been dressed with Dutch ashes early in spring. It is mostly consumed in the green state. The clover-ley is manured with ten cartloads of dung to the acre, and rye sown again, but not clover. After the rye comes buckwheat without any manure; then potatoes again, manured as at first, and the same rotation of crops follows. It is found that the poor land gradually improves at each rotation from the quantity of dung used; and, as this is essential, it will be easily seen that without water carriage the improvement could not go on; for the necessary quantity of dung could never be brought to the ground by land carriage through the deep sandy roads, which are mere tracks.

For want of sufficient manure, broom-seed is sometimes sown with the rye after the clover. The rye is heaped and the broom continues in the ground two years longer. It is then cut for fuel. The green tops are sometimes used for litter for the cows, and thus converted into manure. It is also occasionally ploughed in, when young and green, to enrich the land. Oats, clover, and broom are occasionally sown together. The oats are reaped the first year; the clover and young broom tops the next, and the broom cut in the third. This is a curious practice, and its advantage appears rather problematical. All these various methods of bringing poor sands into cultivation show that no device is omitted, which ingenuity can suggest, to supply the want of manure.

After the land has been gradually brought into a good state, and is cultivated in a regular manner, there appears much less difference between the soils which have been originally good, and those which have been made so by labor and industry. At least the crops in both appear more nearly alike at harvest, than is the case in soils of different qualities in other countries. This is a great proof of the excellency of the Flemish system; for it shows that the land is in a constant state of improvement, and that the deficiency of the soil is compensated by greater attention to tillage and manuring; especially the latter. The maxim of the Flemish farmer is, that 'without manure there is no corn—without cattle there is no manure—and without green crops and roots cattle cannot be kept.' Every farmer calculates how much manure he requires for his land every year. If it can be bought at a reasonable rate, he never grudges the outlay. If it cannot be purchased, it must be made on the farm. A portion of land must be devoted to feed stock, which will make sufficient manure for the remainder: for he thinks it better to keep half the farm only in productive crops well manured, than double the amount of acres sown on badly prepared land. Hence also he does not reckon what the value would be of the food given to the cattle, if sold in the market, but how much labor it costs him to raise it, and what will be the increase of his crops from the manure collected. The land is never allowed to be idle, so long as the season will permit any thing to grow. If it is not stirred by the plough and harrows to clear it of weeds, some useful crop or other is growing in it. Hence the practice of sowing different seeds amongst growing crops, such as clover or carrots among corn or flax; and those which grow rapidly between the reaping of

one crop and the sowing of another, such as spurrey or turnips, immediately after the rye is cut, to be taken off before wheat sowing. These crops seem sometimes scarcely worth the labor of ploughing and sowing; but the ploughing is useful to the next crop, so that the seed and sowing are the only expense; and while a useful crop is growing, weeds are kept down. These are the general principles of Flemish husbandry.

The collection and application of manure is the great secret of Flemish husbandry. Upon their poor light soils nothing could be raised without an abundance of manure. It is consequently, an object of minute attention to the Flemish farmer to collect as much as possible, and to apply it in the most advantageous manner. For this purpose the dung of the different domestic animals is generally kept separate, especially that of cows, from that of horses; the former being thought better for dry sandy soils, the latter for colder loams and clays. They look upon pigs' dung as being cold and inferior, adopting in this respect the opinion of the ancients. We think differently; but this may be easily accounted for. The Flemish store pigs are fed in the most miserable manner, and are merely kept alive on weeds taken from the fields, or by very scanty grazing in rough pastures. We need not be surprised, therefore, that their dung is poor. The cows are better fed, and their dung is consequently richer. Cow dung is thought to last longer in the soil, and its effects on the second crop are more conspicuous than that of horse dung, which stimulates more and is sooner effete. Sheep, which are so important to the light-land farmer in England and Scotland, for their manure, are not kept in sufficient quantities in Flander, nor well enough fed to do much good to the land. They are commonly housed every night, and driven about in the day to gain a scanty subsistence along the roads and sides of fields. The manure collected in the sheep-fold is carried out on the land, and its effects are duly appreciated. A flock is occasionally folded on a clover ley before it is ploughed up, but never on turnips, which are always given to the cows. This is owing to the small extent of the farms, which do not allow of a considerable flock of sheep being kept by any one farmer; but a flock is made up of different lots of sheep belonging to several proprietors, and put under the care of a common shepherd, or it is sometimes the property of the shepherd, who occupies no land, but lets out the sheep to fold, or sell the manure.

But the great auxiliary of the Flemish farmer is the URINE TANK, wherein are collected not only the urine of cows and horses, but also the drainings of the dunghills. The urine tanks are generally sunk below the level of the ground, and have the sides built of brick, and the bottom paved: they are of various dimensions, according to the number of cows and horses on the farm. Attached to the distilleries, where many beasts are constantly kept to consume the refuse wash, there are very large urine tanks of an oblong shape, divided by partitions into different chambers, so that the liquor may be of the proper age when it is used, which some farmers think ought to be six months. Each chamber is about eight feet square and six or eight feet deep; these are sometimes vaulted over, but frequently only covered with loose boards. As urine and the emptyings of privies are sold wholesale and retail, there are many large tanks near the rivers and canals, where the dealers have sometimes great quantities in store. Some of these consist of many square pits like tan pits, bricked round, and the inside covered with a cement, which prevents loss by filtration. There is generally in a corner of each pit a graduated scale, by which the number of barrels, or tons of liquid in the tank may be ascertained by observing the height of the surface. These tanks are gradually filled by boatloads brought from the large towns; and when the season arrives for sowing, in spring and autumn, the farmers come with their carts and tubs, and purchase as much as they want. The price varies from three to five francs (two shillings and sixpence to four shillings) per hogshead according to the quality. In a small farm of thirty to forty acres the tank is generally about twenty feet long, twelve wide, and six deep, with a partition in the meddle, and arched over, leaving an opening for the pump, and another sufficient to allow a man to go in to empty out the earthy deposit which falls to the bottom. A trapdoor shuts over this aperture to prevent accidents. Sometimes the tank is round, like a well, with a domed top, and so deep in the ground, that it has a foot or two of earth over it. The situation of the tank is either in the farmyard near the entrance of the cowhouse, or immediately behind it; sometimes it is like a cellar under the building; but this is apt to cause a disagreeable smell in the cowhouse. We here describe those which we consider the most convenient: the form and capacity of the tanks vary according to the means and notions of the proprietors of the farms: but a tank of some kind or other is considered as indispensible an appendage to a farm as a barn or cowhouse. The farmer would as soon think of dispensing with his plough as with his tank: and no expense or trouble is spared to keep this well supplied. The numerous towns and villages in Flanders afford great help in the way of manure. The thrifty housewife and her active substitute the maid, know the value of what in our households is thrown away or wasted and lost. A small tank, or a tub sunk in the ground in some corner contains all the liquid which can in any way be useful; soapsuds, washings of ditches, &c., are carefully kept in this reservoir, until once a week, the farmer or contractor calls with his tub on a cart, and this, mixed with the contents of privies, which are frequently emptied, he keeps in large cisterns for use or sale.

But this supply is not always adequate to the wants of the farmer, and then he has recourse to rape cakes dissolved in water, or in the tank, which is expensive, and can only be profitable where flax bears a good price, this being the crop for which rape cakes are chiefly used as manure. Every means, therefore, of augmenting the supply of urine is had recourse to, and the most efficacious is the establishment of distilleries. These answer the double purpose of consuming produce and increasing manure by the number of beasts which are fattened on the refuse wash. It is calculated that every beast produces at the rate of ten or twelve tons of dung and twentysix hogsheads of urine in the year. A moderate distillery has fifty or sixty head of cattle constantly stalled. Here then is a supply of manure for several hundred acres of land every year. Formerly there were a great many distilleries in Flanders, but the duty on spirits and the interference of the government has much reduced their number; so that the farmers complain of the loss of this manure, and the consequent deficiency of their crops.

The dung of pigeons and domestic fowls, where it can be collected in any quantity, is highly valued. The mode of using it is either in a dry and powdered state, to which it is reduced by thrashing with a flail, when it is sown with the seeds of leguminous plants, or else dissolved in the urine tank, and thus spread over the land. This manure is chiefly reserved for kitched gardens; it promotes the growth of vegetables and produces no weeds.

The solid dung, from which the liquid has been allowed to run off into the tank, must be carefully attended to, that it may not be too dry and become *foxy*, as it is called, or burn. It is therefore, mixed up with earth and any useless vegetable matter which can be collected into a heap or compost; and when it appears too dry some of the liquid from the tank is poured over it, to excite fermentation and accelerate decomposition, or it is merely watered, when there is sufficient strength in it to produce heat.

In order to increase as much as possible the quantity of solid manure, there is in most farms a place for the general reception of every kind of vegetable matter which can be collected; this is a shallow excavation, of a square or oblong form, of which the bottom has a gentle slope towards one end. It is generally lined on three sides with a wall of brick to keep the earth from falling in, and this wall sometimes rises a foot or more above the level of the ground. In this pit are collected parings of grass sods from the sides of roads and ditches, weeds taken out of the fields or canals, and every kind of refuse from the gardens: all this is occasionally moistened with the washings of the stables, or any other rich liquid; a small portion of dung and urine are added, if necessary, and when it has been accumulating for some time, it is taken out; a portion of lime is added, and the whole is well mixed together; thus it forms the beginning of a heap, which rises gradually, and in due time gives a very good supply of rich vegetable mould, or compost well adapted to every purpose to which manure is applied. The place where this accumulation is made is called in French a *croupissoir*, and in Flemish or Dutch *smoor hoop*, which may be translated *smothering heap.*

Besides the manure which is collected on the farm, the *vidanges*, or emptyings of privies obtained from the towns, and the sweepings of streets, a large quantity of peat ashes imported from Holland are used, principally as a dressing for clover. These are the ashes of the common fuel in use in Holland, and are sold in Flanders by the bushel, as the Newbury ashes are in Berkshire.

Wood ashes, after the greater part of the alkali has been extracted for bleaching, are still considered as of great use to the land. Soapers' ashes are in great request for cold heavy soils; and sugar scum from the refiners, if it could be procured in sufficient quantity, would be an excellent manure for every kind of soil. Where it can be obtained, they usually throw it into the urine tank; and the mixture is then considered as almost equal to the vidanges, which are looked upon as the *ne plus ultra* of manures. Soot is used as a top-dressing for wheat, or clover in spring, as it is with us. It is thought to destroy insects and hasten vegetation.

The weeds, which grow abundantly in all ponds, canals, and ditches in this level country, where the current is never rapid, are mown in spring, and used in the green state as manure for potatoes. They are laid in the furrows, and the sets placed over them; the furrow is then filled up by the plough and the weeds decomposing very rapidly, greatly

assist the growth of the potato plants: so rapidly do these weeds ferment, that much of their value is dissipated, if they are left only forty-eight hours in heaps before they are put into the earth.

The manner in which manure is applied to the land for different crops will be explained as these are separately treated of: but the general principle, which pervades the whole system of manuring, is worthy of attention. Two great objects are always kept in view. The first is to obtain the most abundant crop of whatever is sown; the next is to impregnate the soil with an increasing power of production, if possible, or at least to maintain that which has been obtained. In consequence of this, almost every crop has a certain portion of manure applied to it, which varies according to the nature of the crop to be raised, and that which has preceded; experience having taught that some crops exhaust the soils more than others.

But it is not the mere surface that they desire to manure. They well know that the deeper the soil is fertilized, the greater will be the profit and the less the labor. They are not satisfied with enriching the land to receive the seed, they furnish food for the growing plant in different stages of its growth, if they think it necessary. There is in consequence no fluctuation in the growth, no check at a time when the plants require support. The seed is made to vegetate rapidly by being in contact with the rich juices of the manure; and hence a much smaller proportion of seed is required. The young blade is invigorated by judicious watering, and is soon out of danger of the attacks of insects.

Liquid manure is carried to the fields in common water-carts, which consist of two wheels and shafts, carrying a cask containing from sixty to one hundred and twenty gallons of liquid. The cask has in the under part a hole, two or three inches in diameter, secured inside by a valve: under this is a board a little slanting, to spread the liquid as it flows out of the cask. A man usually rides on the horse which draws the cart, and holds in his hand a string, which passes through a hole in the cask, and opens the valve when required. There is an advantage in riding on the horse, as it does not add to the weight of the load on the wheels, which in light soils would be apt to sink deep. In a momentary exertion it assists the horse by the weight on his back; and the heavy Flanders horses are well able to carry a man and draw a light load at the same time. When the cask is empty trots home for another load, and no time is lost. It is astonishing what advantage there is in accustoming horses to trot when they have no load; it actually fatigues them less than the continued sleepy walk. Who would suppose that the Flemish and Dutch farmers surpassed us in activity? but whoever has been in the Netherlands in hay-time or harvest must acknowledge it.

The dung which is carried in a solid state, is generally used at a time when it is in a state of active fermentation, as it is then supposed to have the best effect. To ensure this in some districts, as the Wales country, where the minutest attention is paid to every circumstance which can increase fertility, the dung is laid on the field in moderate heaps, and on each heap a certain quantity of urine is poured to excite and renew the fermentation: whenit becomes sensibly heated, the dung is spread out and immediately ploughed in. After ploughing in the manure the land is left for some time, and then a second deep ploughing is given to incorate the decomposed dung with the soil, but so as not to bring any to the surface. A short time before sowing, the liquid manure is poured over; and this enriches the surface to make the seed germate sooner.

Lime is not much used in the light soils, but commonly in the cold and stiff. As it is generally brought from a distance, it is dear: and this prevents any extensive application of it. Marl is found in a few spots, and serves to improve the poorer lands within reach of it.

From the Genesee Farmer.

TOADS.

There are few animals so universally disagreeable, or which are so generally considered an incarnation of every thing vile, as the toad, *bufo vulgaris* of the naturalist. Milton understood the amount of the prejudice against the toad, when he placed the arch fiend in the disguise of this reptile close to the ear of sleeping Eve, in Paradise; for we may be sure Lucifer would not have been guilty of the indiscretion of approaching her in that form when she was waking. But though the toad seems to have been marked out for the hate and aversion of mankind, there are few reptiles whose habits are more worthy of notice, none that are more harmless, and few that render more actual service to man. It is true, neither the frog or the toad, particularly the latter, would be an agreeable inmate of the "kneeding trough," or a pleasant companion in the "bed chamber," but in the field or in the garden, they devour multitudes of insects that prey on the labors of man, while they meddle with none of the plants or fruits that require his protection or cultivation.

With the approach of cold the toad retires into the earth, and in a torpid state awaits the return of the spring. If surprised in this state by any change in the face of the earth, that could have the effect of placing him beyond the influence of the seasons, the toad, it is supposed, can remain uninjured in this state for an indefinite length of time; and in this way the discovery of frogs and toads, in deep excavations, and even in solid blocks of stone, has been attempted to be accounted for. The celebrated geologist Buckland, however, seems to doubt whether the evidence in proof of such discoveries, is such as to warrant implicit confidence in the details. We should imagine that if correctly represented, the discovery of the one at Lockport, while excavating the limestone of the mountain ridge, was as little liable to deception or doubt, as such matters usually can be; and we know of no philosophical reason, why, if a toad can lie torpid for one year, as has been proved by burying them in pots, they might not as well exist one hundred or a thousand, if the proper temperature for ensuring torpidity was preserved.

Some writers have denied that the toad, under any circumstances, was poisonous; but this is a mistake. When in danger, or when irritated, the tubercular elevations on the backs and sides, have the power of secreting a milky fluid, as every one may readily ascertain, and every school-boy who is in the habit of pelting them with stones well knows. This fluid, given for defence, as we suppose, is decidedly poisonous, as its effects on cats, and other animals, fully prove. This is the only power of injuring it possesses: and this secretory and offensive power appears to reside in the skin, as the animal is frequently skinned and sold with the frog in the markets of European cities, for food, and eaten with impunity.

Toads after the time of breeding is over, forsake the pools of water where they assemble in the spring, and in or near which, they usually pass the winter, and scatter themselves over the land, and when once they have chosen a favorable position, if not disturbed, they rarely quit it for the season, and some have been known to retain possession for several years. From these retreats they emerge towards nightfall, or in the evening, and feast on snails, flies, bugs, or any living insect that falls in their way. In a garden their services are thus invaluable; and some gardeners introduce and protect them through the summer, for the aid they render in the destruction of worms, &c.

Notwithstanding his clumsy and ungainly appearance, there are few animals so quick of motion as the toad, and this is shown most distinctly in taking his insect food. It will not unfrequently, in a warm summer evening, when doors are open, make its entrance into the house, where it feeds on flies that approach. Seated on its haunches, it surveys the floor with great gravity, but if an unwary fly alights within four or five inches, it disappears with incredible quickness. There can be a slight motion of the toad discovered, a quick snap as of the jaws is heard, but the position of the animal is unchanged, while his prey vanishes with the velocity of light. A close examination shows, however, that there is a slight motion of the body forward, without moving the feet; and the snap is produced by the shutting of the mouth after the tongue has seized and secured the insect, though so quick is the operation performed, that the tongue is never distinctly seen. We have often seen this feat performed by placing a fly or a bug, on the end of a grass stalk, and pushing it gradually towards the toad, when he first makes his appearance at dusk. The lightning's flash is hardly more quick or fatal, than the snap of this reptile to the insect he aims at.

To enable the toad, frog, chameleon, and some other reptiles to seize their prey, the tongue has a curious conformation; "it is of great length, its root is attached close to the *fore part* of the lower jaw, while its point, which is cloven, is turned backwards, extending into the throat, and acting like a valve in closing the air passage into the lungs. If, when this animal has approached within a certain distance of the insect it is about to seize, we watch it with attention, we are surprised to observe the insect suddenly disappear, without our being able to determine what has become of it. This arises from the frog (or toad) having darted out its tongue upon its victim with such extreme quickness, and withdrawing it with the insect adhering to it, so rapidly that it is scarcely possible for the eye to follow its motion."—(Roget's Physiology.)

A fact which was related to us a few days since by a gentleman, will furnish a curious illustration of the habits of this animal. He was mowing in a field, when he disturbed a nest of the common humblebee. As they were quite numerous, and appeared very pugnacious withal, he concluded to let them alone until they became more quiet, when he determined to visit the nest again, and appropriate their stores to himself. In the course of a few hours he repaired to the spot, when to his surprise he saw a large toad had planted himself directly before the place of egress for the bees; and

he seemed so satisfied with his position that the gentleman determined to ascertain if possible, his business in that place. He soon saw that every bee that showed himself disappeared in some mysterious manner, and that a slight snap, invariably connected with their disappearance, convinced him it was in some way owing to the toad, and that in this way the animal was doing him a good service. It was but a short time before every working bee was despatched, not one escaping; and then, by slightly disturbing the nest, the queen bee or drones that generally are found to the number of three or four among humblebees, were induced to venture out, and instantly share the fate of their companions. The honey fell to the share of my informant; the toad appearing perfectly satisfied with his allotment of the "spoils."

TREATMENT OF WOUNDS ON HORSES.

Mr Tucker—In the fifth number of the current volume of the Monthly Farmer, I noticed some remarks upon the "Treatment of wounds on Horses," and although the treatment there recommended, would, undoubtedly, under certain circumstances, prove highly beneficial, yet, as that article seems to direct it as generally applicable in every case, and in every condition of wounds, while in many, and indeed in most cases, it could not fail to prove injurious, I beg leave to offer for your consideration, a few observations upon the same subject.

It is truly painful to see an animal possessing such claims to our kindness and care, as the horse, so often subjected to empirical and cruel treatment, when laboring under disease. This arises from the prescription not being directed by any rational physiological and pathological principles; every one feeling at liberty to prescribe whatever remedy he may have heard of, or can invent, and the more bold and novel, the greater the merit of suggesting it. Attention to a few well established principles, would prevent the fatal errors into which many are unwarily led, and preserve many a noble and valuable animal from ruin.

Experience has abundantly proved that those general principles of physiology and pathology, which are applicable to the human subject in health and in disease, are also applicable to those animals that are taken from the hand of nature, and submitted to our care and nurture, and that similar diseases require in both, similar treatment. The principles, therefore, that would guide a skilful surgeon in the treatment of a surgical disease in man, should also direct the veterinary surgeon or farrier, in similar diseases in a horse, or other animal. In relation to this subject, the surgeon may well adopt, as his motto, lines that are perfectly adapted to every other, of which your paper professes to treat.

"Take Nature's path and mad opinions leave."

The two processes by which nature accomplishes the healing of wounds, are, 1st, union by the first intention, as it is technically called, or in other words, the union of the divided parts immediately, without the formation of matter; and 2d, by granulation, in which the immediate union of the parts is not effected; but by accident or improper interference, are kept asunder, and the chasm has to be filled up, by the formation of new flesh. By the first process the cure is soon accomplished, with little trouble, with little or no pain, and little risk of leaving an unsightly scar. By the second, the cure is often protracted, interrupted in its progress, and more liable to leave a permanent disfigurement.

The principles by which the one or the other of these results is produced, are these; 1st, if the sides of a recent wound, made by a cutting instrument, be simply brought into perfect contact, and retained there from three to five days, a perfect union will take place, without the formation of matter. 2d, if the divided parts cannot be brought into perfect contact, or before contact have been irritated by improper applications, immediate union will not take place, but matter must be formed, new flesh must be interposed to connect the parts, and subsequently be removed by the slow progress of absorption, to accomplish the same ultimate object. The first process is nature's own spontaneous effort to effect a cure, and the course which she would always pursue under favorable circumstances, if left to herself, or gently and judiciously aided by art. The second, is that to which she resorts from necessity, and when interrupted in her salutary process, by the rude and ill-timed interference of art—the first result therefore, should always be aimed at, as not only the most favorable, but also as attended by the least risk and trouble. To attain which, the principles just referred to, dictate the following course.

As nearly as may be, free the wound from all foreign substances, as dirt, gravel, hair, &c. &c., in the most gentle manner, by means of a soft sponge and simple warm water, then bring the sides of the wound into perfect contact, if possible, and retain them there by means of adhesive plaster, or stiches, or both, according to circumstances, and over the whole, apply a pledget of soft lint, which should remain until the cure is effected. Nothing more is required, unless inflammation should run too high, when keeping the parts constantly wet in *cold water* is the best application. Indeed, the numerous cleansing and healing nostrums so frequently resorted to, never fail of being hurtful by disturbing the salutary operations of nature.

With this mild and simple treatment, nature always produces that degree of inflamation which is necessary to effect a cure, in the best possible manner; but by the officious application of plasters, blue stone, detergent oils, &c. &c., her salutary operations are disturbed, too much inflammation is excited, and she is compelled to resort to the slower, more laborious, and imperfect process, of healing by granulation.—*Genesee Farmer.*

Massachusetts Horticultural Society.

EXHIBITION OF FRUITS.

Saturday, Sept. 8, 1838.

Pears.—From Mr Ives of Salem, Francreal D' Ete, a very superior and productive fruit. Roi de Wertemberg (formerly miscalled Capiaumont) and old Catharine.

From Mr Vose, President of the Society, Julienne, Cushing and Dearborn's seedling.

From Mr S. Phipps of Roxbury, a Pear without name.

From Mr Manning, Chair a dame, Vallee Franche, Julienne, Golden Beurre of Bilboa, Passans de Portugal, and a round sweet Pear from France, also Summer Rose of Coxe, a small round, breaking fruit, of an aromatic flavor.

From Dr J. C. Howard of Woodland, in Brookline, Bergamotte Rouge, so called, a fruit which appears identical with the Summer Rose of Mr Manning, but much more highly colored with red.

From Col. M. P. Wilder, a Pear for the Beurre d' Amaulis, which is a noted fine fruit; the specimen imperfect; a large fruit, of a pyramidal form, and green color, with a ruddy cheek, Beurre and of good flavor.

Apples.—From Edward Sparhawk, Esq. of Brighton; Princess Harvest, a very beautiful deep red striped fruit, over medium size, juice abundant, of an agreeable, sprightly, acid flavor.

From Mr Ives of Salem, Early Sweet Bow, fine.

From Mr John A. Kenrick, Early Sweet Bow, very beautiful.

From S. Davis, Esq. of Newton, Hawthorndean.

From Mr S. Bigelow, of Medford, a large red French striped Apple.

Peaches.—From Mr T. Bigelow of Medford, handsome yellow malacatunes.

From Mr W. T. Eustis of Brighton, specimens of Peaches of great beauty.

Mr E. M. Richards offered for exhibition, ninety seedling Peaches, of as many different varieties, raised by Mr Otis Pettee of Newton, all of them appeared fair and handsome, and some portion fine.

Plums.—Mr Manning offered specimens for exhibition of the Red Apricot Plum; a dark purple round fruit of rather large size and handsome. Also Hulings superb, a remarkably large fine fruit, but a shy bearer.

From Mr S. R. Johnson of Charlestown, Reine Claude or Green Gage, Princes Imperial Gage, both specimens fine; also Bolmer's Washington, very large and beautiful. This superb variety produces large crops of delicious fruit in the garden of Mr Johnson; and appears to differ from the fine Bolmer Washington of Mr Cruft of the city, the one being a clingstone and the other a freestone. The variety of Mr Cruft confirming more exactly to the description which authors have given of the Bolmer's Washington, is yet deemed a shy bearer.

From Messrs. Mason of the Charlestown Vineyard, a small, round, white seedling fruit, of a sweet flavor.

From Mr Henry Van Dyne of Cambridgeport, a seedling, very handsome Blue Plum, for a name; which we venture to name *Van Dyne Plum.* We may speak further of the merits of this fruit on a future occasion.

Grapes.—Mr Josiah Bradlee of the city, offered specimens of the Black Hamburg from the Grape House of Aaron Mitchell Esq. of Nantucket; clusters very large and beautiful. The soil and climate of that Island prove admirably adapted to the vine.

From Dr J. C. Howard, specimens of the Black Hamburg, White Chasselas, and the Meunier or Miller's Burgundy, corresponding in size and beauty to those of this gentleman's former exhibitions.

From Mr Otis Johnson of Lynn, splendid clusters of Black Hamburg.

From Mr Jacob Tidd of Roxbury, specimens of White Chasselas and Black Hamburg corresponding in beauty to those of his exhibitions in former years.

From Mr Davis of Newton, Black native grapes.

For the Committee.

WILLIAM KENRICK, *Chairman.*

EXHIBITION OF FLOWERS.

Saturday, Sept. 8, 1838.

Dahlias.—From Messrs Howard, Wilder, Hovey and Walker, among them we noticed Prince George, Dennisii (fine) Ophilia, Desdemona, Cedo Nulli, and Queen of Wertemburg by Dr Howard; Widnall's Juliet (superb) Brown's Beauty, Buist's Mrs

Rushton, Middlesex Rival (fine) and Conqueror of Europe, by Hovey & Co.; Fowler's Queen Victoria (very fine form) from Col. Wilder. Dennisii, Widnall's Perfection, Lady Ann, Napoleon, Jackson's Rival Yellow, Cleopatra, and Desdemona, from S. Walker

Bouquets.—By Messrs W.Kenrick, Winship, (very fine), Howard, (extra fine), Mason and Walker.

For the Committee,
S. WALKER, *Chairman.*

NEW ENGLAND FARMER,
AND GARDENER'S JOURNAL.

BOSTON, WEDNESDAY, SEPTEMBER 12, 1838.

AGRICULTURAL IMPROVEMENTS.

No. I.

We spoke in a preceding paper of agricultural experiments. We mean now to say something of agricultural improvements. In essays for a weekly journal it is plain that no subject can be treated but in a very partial manner. All we propose is to suggest hints, by which others may be excited to reflection and experiment; and from which they may gather some practical rules for the amendment and advantage of their husbandry. We shall aim merely to throw out some ore from the quarry in its crude state; and leave to others to reduce and mould and fashion, and use it as they will.

Improvement implies making a thing better; and there is nothing which more concerns our farmers; there is nothing in which they could more directly or more effectually advance their own interest; and yet there is nothing in which they are more deficient; there is nothing at which, taken as a body, our farmers labor so little. In saying this we mean to except those men of property, who farm for their own pleasure; and professional men, tradesmen, mechanics, or manufacturers, who apply some portion of the proceeds of their profession, trade or business to agricultural embellishment, and improvement.—We speak of those, who are exclusively farmers; and of this class within our observation and knowledge there are certainly few, who make it a business to improve their farms; or who attempt and effect important, extensive, substantial, and permanent betterments. Now let us inquire what improvements are desirable; what can be done, and then what are the alleged reasons, and what the true reasons, why these improvements are not made. We write for common farmers in this case, who depend on their farms for their own and the subsistence of their families; and our object is to inquire what improvements can they make, for which the farm will itself pay. We set too high a value upon labor, to wish to see it applied by persons who have no other capital to trade upon, where there is not a moral certainty of remuneration and profit.

The condition of most of our farmers is in many respects straitened and severe. They begin life with small means; often with no means; or with the small earnings of two or three years' labor at service. They purchase farms and at once involve themselves in debt. The first purchase usually absorbs all their loose capital; they seek to get along solely by their own labor, hiring as little as possible. Agricultural returns are comparatively slow. They find it perhaps at first difficult to pay punctually the interest upon their debt. Too often they have not the courage, and perhaps more often, if they had the courage, they would not have the power or opportunity to borrow money. Individuals, who are capitalists, think in general they can find more profitable investments for their money than to lend it to farmers, who have no other resource than in their own labor and enterprise. Bank loans are in general too short and capricious to be safe or convenient for farmers; besides that banks never were designed for farmers; they are only for merchants and manufacturers; and for a much more numerous class, who are the very curse of every industrious community, gamblers and speculators who live upon the hard earnings of labor. Under these circumstances the farmer finds his task difficult. An unfortunate year or a capricious market gives him a severe check, and perhaps produces entire discouragement. All thoughts of improvement then are at an end. He drags along from year to year continually embarrassed by a load of debt, which he can hardly stand under and which he cannot throw off; until at last when he can get on no farther, his mortgage is foreclosed, his premises pass under the hands of the auctioneer, and he is left again to shift for himself, to find what employment he can or to subsist his family as he may; or gathering the fragments of the wreck he leaves the home of his fathers to pitch his tent where chance may direct him in the seductive and perilous western land of promise, and to encounter all the difficulties and hardships of a new and untried country and climate. This is but the history of innumerable individuals among us. The frequency of these cases, we confess, throws a damper upon our hopes of agricultural improvement, unless some remedy or preventive can be pointed out. Let us then go a little farther into this matter.

Agricultural improvements may be properly divided into three classes; those which are mere embellishments; those which are necessary or useful but not immediately productive; and those which are directly productive. All that serves no other purpose than to improve the external appearance of our premises, paint, piazzas, colonnades, blinds, ornamental fences, pointed and faced stone walls; all within doors likewise that is mere matter of embellishment or luxury, papered walls, carpets, and sofas; and so likewise gravel walks, and arbors, and summer houses, and ornamental shade trees; and also all expensive vehicles and equipments, all chaises, and pleasure wagons, and plaited harnesses, these things though very gratifying to the taste and pride, and very reasonable luxuries and indulgences in some circumstances, cannot be brought into the class of productive improvements; and should not be thought of by the farmer or the farmer's wife, who are in debt to the smallest amount; or who have few or no other resources than in their own industrious habits and severe labor. Yet expenses like these are often incurred; and cripple the energy of the farmer and withdraw from him the means of making improvements on his farm of a productive character.

There is a second class of improvements, which may be deemed necessary and useful. The farm must in the first place be well divided and fenced. This is necessary in order to the safe keeping of the live stock; and to the protection of the crops. The division of a farm into enclosures of a proper size renders the cultivation more easy; permits with greater convenience a rotation of crops; and the appropriation to different objects, as it may be necessary, the different portions of the farm.—Then likewise by poor or insufficient fences crops are oftentimes seriously injured or destroyed; quarrels and heart-burnings and law-suits are engendered among neighbors; and the good morals of your cattle are destroyed. The preparing also of cellars for receiving your crops, of vaults under your stables for the manufacture and preservation of your manure; and also the building of convenient styes, stalls, stables and barns for the storage of your produce and the protection of your cattle; and the obtaining of valuable and labor-saving machines and implements for cultivation and the preparation of your product for market, all these are useful, and properly speaking, necessary improvements on a farm, but which cannot be classed among productive improvements. They save much that might otherwise be lost, or injured, or perish; but they create nothing, unless it be according to Poor Richard's proverb, that a penny saved is two pence earned." A farmer may, as is often said, get along without any of these conveniences and facilities; but it is miserable husbandry when his crops are lost or wasted for the want of convenient store-houses and barns; when he dare not cultivate many valuable products, because he has no means of securing them from the wet or the frost; where his cattle suffer from the weather for want of commodious shelter; and when especially he is without ample means of securing and manufacturing manure, that most important and essential basis of successful husbandry. Improvements of this kind are to be considered as so much fixed and dead capital, as necessary as the store-houses and ships of the merchant, or the tools of the mechanic, or the machinery and fixtures of the manufacturer. The great points to be aimed at in these matters is to avoid multiplying these things beyond his necessities; and at the same time to make them as plain and as little expensive as possible consistent with durability and their exact adaptation to the purposes designed. The multiplication of conveniences beyond a certain point is often itself a great inconvenience. A machine for example, which performs a great many operations at the same time, is of necessity complicated, requiring therefore a much more careful superintendence in its management; and being much more liable to get out of repair. Another matter of importance is to avoid all needless expense in the construction of farming implements and buildings. The first object of every farmer, who depends on his farm for his subsistence should be utility. The great point to be aimed at in the construction of any and every machine, utensil, building or fixture should be to accomplish the objects and purposes for which it is designed. In most cases taste and fancy may be consulted in consistency with cheapness and utility; but where they interfere with each other, every thing should be sacrificed to the proper objects of the work. Shall a farmer for example paint his barn? In general we have no doubt it is matter of sound economy. The next question is, of what color shall it be? White is the most neat; white furnishes the most agreeable contrast with green. But white is least durable; white is most liable to be defaced; white does not contrast in general very agreeably with the manure heaps usually in its vicinity. Red lead or yellow ochre are much cheaper, more lasting, and not so easily defaced. So likewise in regard to implements. A farmer can always afford to pay liberally for good materials and careful and faithful workmanship; but he can afford to pay nothing for any ornamental apparatus. It is but recently that we saw two very fine ploughs brought into competition. The construction of each was excellent. In point of strength of workmanship, and durability, and ease of handling, and power required for draft, there perhaps could be no choice between them; or if any, the preference would belong to the plough of cheaper construction. The price of one of these ploughs was seventeen dollars; of the other six dollars seventyfive cents; and all this difference of ten dollars and twentyfive cents between the two was chargeable to the extraordinary polish, skill, and beauty of workmanship bestowed upon one of them, without a single practical advantage excepting the pleasure afforded to the eye. In such needless expenses as these no farmer should allow himself, if he is dependent upon his farm for his support; if he is in debt to the amount of a single dollar beyond what he has the means of paying at once; or if he is without ample means of indulging his taste and fancy at his pleasure.

We shall pursue our subject in a future paper. H. C.

P. S. It has been requested that I should affix my initials to my communications. In a matter of so little importance it would be uncivil to refuse, especially as it may sometimes save the reputation of others, who might suffer under uncomfortable charges. My good friend, J. B., likewise, though a sound believer in the doctrine of imputation, thinks, I dare say, that he has sins enough to answer for without incurring any responsibility for me. Until further advised I will therefore usually, but *not always*, affix my initials. I say *not always*, for whenever for example, I propose to attack any man's private character and perhaps ruin his reputation, or wish to circulate some vile story, which I know to be utterly false, because perhaps I have made it out of the whole cloth, why then I shall remember that the "soundest part of valor is discretion;" and give only the general and convenient authority with many editors in such cases, and remark, "*They say so.*" It would be ridiculous to pretend to any literary ambition in the case. The farmer would hardly understand the term. My sole object is to be useful; and to be therefore as plain and practical as possible. H. C.

HORTICULTURAL EXHIBITION.

The Annual Exhibition of the Massachusetts Horticultural Society will be held at the Society's new Rooms, No. 23, Tremont Row, (nearly opposite the Savings Bank,) on Wednesday, Thursday and Friday, 19th, 20th and 21st September.

The members of the Massachusetts Horticultural Society, and the public generally, are respectfully invited to contribute choice and rare specimens of Fruits and Flowers for the exhibition; and to send the same to 23, Tremont street, on Monday or Tuesday, 17th and 18th inst., where Committees will be in attendance to receive them, and will retain the same subject to the order of the contributors.

Members of the Society will receive their Tickets on application to the Chairman of the Com. of Arrangements.

Season tickets, and tickets for a single admittance, may be had at the door during the exhibition.

By order. SAMUEL WALKER,
Chairman of Com. of Arrangements.

Sept. 10, 1838.

BRIGHTON MARKET.—Monday, Sept. 10, 1838.

Reported for the New England Farmer.

At Market 560 Beef Cattle, 750 Stores, 4,000 Sheep, and 500 Swine.

Prices—*Beef Cattle.*—The market to day was quite animated and the prices for the best cattle were supported. We quote, First quality $7 37 1-2. Second quality, $6 50 a $7 00. Third quality, $5 00 a $6 25.

Stores.—Purchasers were plenty and a large number were sold. Yearlings, $9 a $12. Two Year Old $16 a $24. Three Year Old, $22 a $30.

Sheep.—About the usual prices were obtained. We noticed the sale of lots as follows. $1 42, $1 62, $2 00, $2 25, $2 37, and $2 88.

Swine.—Lots to peddle were sold at 6 for sows, and 7 for barrows. Selected lot of barrows at 7 1-2 and 8. At retail, 7 a 7 1-2 and 8 a 8 1-2.

THERMOMETRICAL.

Reported for the New England Farmer.

Range of the Thermometer at the Garden of the proprietors of the New England Farmer, Brighton, Mass. in a shaded Northerly exposure, week ending September 9.

September, 1838.		7 A.M.	12, M.	5, P.M.	Wind.
Monday,	3	46	62	52	W.
Tuesday,	4	44	68	60	S. W.
Wednesday,	5	50	78	71	N.
Thursday,	6	56	80	76	E.
Friday,	7	56	84	78	N. W.
Saturday,	8	52	74	66	W.
Sunday,	9	54	76	64	N. E.

EMPLOYMENT WANTED.

A Gardener out of employment would be happy to attend to orders for budding or gardening of any description. Apply at the New England Farmer Office.

FRUIT AND ORNAMENTAL TREES, MULBERRIES, &c.

Nursery of William Kenrick.

The Catalogue of Fruit and Ornamental Trees for 1838 is now ready, and will be sent to all who apply. It comprises a most extensive selection of the superior varieties of Pears, Apples, Plums, Peaches, Cherries, Quinces, Gooseberries, Raspberries, Currants, Strawberries, Grape Vines, &c. The stock of Cherries and Peaches now ready is particularly large. Also, Ornamental Trees, Shrubs, Roses, Honeysuckles; Pæonies, Dahlias and other Herbaceous Flowering Plants.

225,000 Morus Multicaulis are now offered for sale; the trees genuine and fine, will be ready for delivery at the cities of Boston, New York and Philadelphia, in October next, at prices fair, and varying with the size, and the quantity which may be desired. Also, Broussa and other varieties.

Mulberry and other trees, when so ordered, will be securely packed for safe transportation to distant places, and all orders promptly executed, on application to B. D. Breck, Commission Store, No. 132 Water Street, New York, M. S. Powell, Seed Store, No. 7 Arch Street, Philadelphia, or to the subscriber, Nonantum Hill, Newton, near Boston.

August 1, 1838. WILLIAM KENRICK.

MULBERRY TREES.

200,000 Genuine Mulberry Trees, and as many more as may be wanted, of the most approved kinds—consisting of the best selected varieties now in use, for cultivation, feeding worms, and making silk;—being acclimated to this country, and adapted to either warm or cold climates, affording a rare opportunity for companies or individuals to be supplied, from the most extensive collection of mulberrry trees ever seen in any village within the United States.

Autumn is decidedly the best time for removal, and orders left with Messrs. I. B. Colt, Secretary of the Connecticut Silk Manufacturing Company, Hartford; Alonzo Wakeman, at the office of the American Institute, No. 187 Broadway, N. Y.; Thomas Lloyd, Jr. No. 236 Filbert street, Philadelphia, Pa.; Luther I. Cox, Baltimore, Md.; B. Snider, & Co. Savannah, Ga.; Bliss Jenkins, &Co. Mobile, Al; James Lyman, St. Louis, Mo.; Case and Judd, Columbus, O.; G. Harwood, Rochester, N. Y.; and the publishers of this advertisement, or with the subscriber, in Northampton, Mass.

Orders left with the above gentlemen will be promptly attended to, and each will be furnished with samples of the foliage.

Several valuable farms may be had with or without Mulberry Plantations

Apply at the office of D. STEBBINS.
Northampton, Aug 22, 1838.

FARM FOR SALE.

That large and beautiful farm, late residence of the Hon. Judge Dame, situated in Rochester, N. H. six miles from the village of Dover, and four miles from Great Falls. Said farm contains upwards of 300 acres of land and a large and well finished two story house, with barns and other outbuildings in good repair. About 150 acres are covered with hard and pine wood, besides a good portion of heavy timber. There are also on the premises large quarries of the most desirable granite. Any person desirous of purchasing may learn further particulars on application to Joseph Breck & Co., No 51 and 52 North Market Street, Boston.

August 15, 1838.

FOR SALE.

Five acres of good Salt Marsh, in Quincy, or (Squantum so called.)

Also, Four acres of Salt Marsh in Brighton.

Also, Several full blood animals, cows and calves. Apply to A. Greenwood, on the Welles Farm, Dorchester, near Dr Codman's meeting house.

Sept. 12, 1838.

BULBOUS ROOTS.

Just received at the New England Farmer Office, a fine assortment of Hyacinths, Tulips, Pæonies, Crown Imperials, White Lilies and other bulbous roots.

WINTER RYE.

Just received at the New England Seed Store and Farmer Office, a few bushels of prime Winter Rye.

JOSEPH BRECK & CO.

Aug. 13, 1838.

FOR SALE.

A two years old Bull of the Cream pot breed; from Mr Jaqueth's stock at Ten Hill Farm, Charlestown. Cows of the above breed make the most butter of any stock in this country. Inquire of the subscriber near the factories in Waltham. ISAAC PARKER.

WANTED TO HIRE

A single Man, who is capable of taking charge of a small Farm. Inquire of JOSEPH BRECK & CO.

Sept. 5.

PRICES OF COUNTRY PRODUCE

CORRECTED WITH GREAT CARE, WEEKLY.

			From	To
Apples,		barrel	2 00	3 00
Beans, white, Foreign,		bushel	1 25	1 50
" " Domestic,		"	2 25	2 50
Beef, mess,		barrel	15 00	16 00
No. 1.		"	13 50	
prime,		"	12 00	
Beeswax, (American)		pound	28	32
Cheese, new milk,		"	6	10
Feathers, northern, geese,		"		
southern, geese,		"	37	45
Flax, (American)		"	9	12
Fish, Cod,		quintal	3 37	3 50
Flour, Genesssee, cash,		barrel	8 25	8 37
Baltimore, Howard street,		"		
Baltimore, wharf,		"	7 50	7 75
Alexandria,		"	7 50	
Rye,		"	5 00	5 50
Meal, Indian,		"	4 00	4 25
Grain: Corn, northern yellow,		bushel		
southern flat, yellow,		"	95	97
white,		"	90	92
Rye, southern,		"	95	96
Barley,		"	75	80
Oats, northern, (prime)		"	42	45
Hay, best English, per ton of 2000 lbs.				16 00
Eastern screwed,			12 00	14 00
Honey, Cuba,		gallon	50	52
Hops, 1st quality,		pound	6	
2d quality,		"	5	
Lard, Boston, 1st sort,		"	12	13
southern, 1st sort,		"	12	
Leather, Philadelphia city tannage,		"	26	28
do. country do.		"	20	23
Baltimore city tannage,		"	25	27
do. dry hides,		"		
New York red, light,		"	22	24
Boston, do. slaughter,		"	19	21
Boston dry hides,		"	18	20
Lime, best sort,		cask	80	85
Mackerel, No. 1,		barrel	10 00	10 25
Plaster Paris, per ton of 2200 lbs.		cask	2 50	2 62
Pork, extra clear,		barrel	26 00	28 00
clear,		"	24 00	25 00
Mess,		"	22 00	24 00
Seeds: Herd's Grass,		bushel	2 63	2 75
Red Top, southern,		"	80	1 00
northern,		"		
Hemp,		"	2 62	3 00
Flax,		"	1 25	1 33
Red Clover, northern,		pound	22	25
Southern Clover,		"	20	22
Soap, American, No. 1,		"	6	7
" No. 2,		"	5	6
Tallow, tried,		"	10	11
Teazles, 1st sort,		pr M.	3 00	3 50
Wool, prime, or Saxony Fleeces,		pound	50	53
American, full blood, washed,		"	45	48
do. 3-4ths do.		"	42	45
do. 1-2 do.		"	38	40
do. 1-4 and common,		"	35	37
Northern pulled. Pulled superfine,		"	42	48
No. 1,		"	38	40
No. 2,		"	28	30
No. 3,		"		

PROVISION MARKET.

RETAIL PRICES.

Hams, northern,		pound	17	18
southern and western,		"	16	17
Pork, whole hogs,		"	9	10
Poultry, per pair,		"	50	1 25
Butter, tub,		"	18	22
lump,		"	25	27
Eggs,		dozen	16	17
Potatoes, new,		bushel	60	75
Cider,		barrel	3 00	3 50

CHERRIES.

One dollar and fifty cents per bushel, given for full ripe, fresh, picked and clear of the stems, Rum Cherries, at No. 58 Broad Street, Boston.

4w

NOTICE TO SUBSCRIBERS.

Subscribers can have the New England Farmer neatly bound for seventy five cents per volume, by leaving them at this office.

Aug. 15, 1838.

MISCELLANEOUS.

SOMETHING NEW.—A writer in the United States Gazette, says that Cayenne Peppers, mixed with Indian meal, is excellent food for turkies. The turkies raised by this process are more hardy, less liable to perish from the cold storms and wet weather, and acquire their growth at an earlier period, than those that are reared upon the ordinary food.

PEDAGOGICAL WIT.—A class was reciting a lesson in Metaphysics—the chapter on *motives* operating on the human will—a mackerel vender went by, vociferating senatorically. "Mackeral, fine fat Mackerel!" Suddenly disturbed by the noise, the master inquired of the class what *motive* the man had for making such a noise? No answer being given, he said they must be *deaf* as *haddocks* and *flat* as *flounders* not to perceive it was a *sellfish* motive.

REALITIES.—A person being asked what was meant by the "realities of life" answered—real estate, real money, and a real good dinner, none of which could be realized without real hard work.

CERTAIN CURE FOR THE DIARRHŒA.—Parch a half a pint of rice until it is perfectly brown—boil it down, as rice is usually done—eat it slowly, and it will stop the most alarming Diarrhœa, in a few hours.

SOOT.—As a top dressing for turnips or grass land there is nothing superior to it.

STATE OF MAINE.

LAND OFFICE,
Bangor, April 30, 1838.

The twelfth section of "an act additional to promote the sale and settlement of the public lands," passed March 24, A. D. 1835, making it the duty of the Land Agent "to advertise the settling lands in market, once a year, for two months, in one paper in the city of Boston, one in Concord, N. H. and in one paper in each county in the State, describing the quality and situation of said land and the terms of sale," the Land Agent hereby gives public notice that Township number 4, in the fifth range of Townships west from the east line of the State, has been lotted for settlers, and is now in the market for sale and settlement under the provisions of the following law passed at the last session of the Legislature. The price will be from fifty to seventyfive cents per acre, according to the quality and situation of the lots. The lots average 160 acres each. The soil in this township is good, being remarkably free from stones, and the land lying in moderate swells. The location of this township is favorable for settlement, as the Aroostook road passes within one mile of the western line of the township. There are between 40 and 50 settlers in the adjoining township No. 4 in the 6th Range, and a good saw mill and grist mill have recently been built there by Ira Fish, Esq. only one mile distant from this township.

Townships No. 3 in the 4th Range, No 7 in the 6th Range, and No. 8 in the 7th Range have been surveyed and lotted into mile sections. Lots of 160 acres will be run out from any of these sections to actual settlers, where the land is more suitable for farming than for timber. Townships Nos. 8, 10 and 12 in the 5th Range have been ordered to be surveyed, by the Surveyor General, forthwith, and will be open for settlers as soon as the lots can be run out. The Aroostook road passes directly through these townships and the soil is represented to be excellent for farming. The Aroostook road is laid out and cut out from the military road leading from Bangor to Houlton, near Mattawamkeag Point to the Aroostook river, a distance of about 75 miles.

About $17,000 will be expended this year, upon this road by the Land Agents of Maine and Massachusetts, and with the part already finished the road will be completed about one half of the distance. The whole distance will probably be completed next year. All the land on this road has been sold for about two thirds of the distance, and in several townships all the lots upon the road have been taken up by actual settlers. The remaining part of the land upon this road, owned by this State is now offered for sale to settlers. The price of lots in these townships under the condition of the new land law will be from fifty cents to one dollar per acre, according to their situation and quality. Should any company of settlers select any unsurveyed township in this part of the State on which they should wish to erect mills under the provisions of the new land law, the Surveyor General would proceed as soon as practicable in the survey of such township.

The settling duties required by law, are "that the purchaser of each lot shall clear in a proper manner, fifteen acres thereof, ten or more of which shall be well laid down to grass, and build a house thereon, within four years from the time of the purchase."

The board of Internal Improvement for this State have just ordered an exploration and survey of all the lands situated in the Aroostook country in reference to their settlement and agricultural capabilities. This survey will be commenced forthwith under the charge of Dr Ezekiel Holmes, of Winthrop. His report of the situation, quality and value of the public land in this part of the State may be expected in the course of the season, and will give all needful information, to those persons who may feel desirous of making a settlement upon them.

The following extracts from the second report of Dr. Jackson on the Geology of the public lands, made to the Legislature, and now in the hands of the printer for publication, show the value of these lands for cultivation. Speaking of the Aroostook country the Doctor says, "the average width of the alluvial region on the Aroostook river cannot be less than six or eight miles, and in some places it is much wider. It is a well wooded region and is the best settling land in the State, equalling in fertility the famed regions of the Western States, and capable even under a less genial clime, of producing crops of wheat and other grain, fully equal in abundance with any soils of which we have any records.

"We here found a yellow loam of a fine kind derived from the limestone rocks and luxuriant in its produce, and in some places covered to the depth of 4 or 5 inches by a black vegetable mould.

This yellow loam is remarkable for the tall rank grass called blue joint, which skirts the margin of the river and from 4 to 5 feet high and extremely luxuriant. The forest trees are of a mixed growth, but the sugar maples are most abundant, and are of gigantic size. Elms, white birch, black and white ash also abound. The soft wood grows mostly on the low lands, while the uplands in the rear are densely crowded with hard wood trees, among which are scattered magnificent pines. In the course of two years, there will be a free communication between Bangor and the Aroostook and a great number of enterprising settlers will take up their residence in this fertile valley, and by farming, they will obtain an ample reward, and that region will become as it is destined by nature to be the *granary* of the north."

In another place Doctor Jackson says—"On the Aroostook it will be remarked, that very few if any hemlock trees exist, and the predominating growth is of a mixture of various hard wood trees, the sugar maple, ash and yellow birch abounding, while occur scattering, some of the most lofty pine trees ever beheld. There are evident reasons why this should be the case, for the richest soils are always most crowded with a mixed growth, and the Aroostook soils are mostly of limestone alluvion, and are exceedingly rich and good settling lands remarkable for their heavy crops of wheat, rye and other grains, and are certainly richer as an agricultural district, than any other portion of Maine. The present population on this river is estimated between 400 and 500 persons, chiefly emigrants from Maine."

Towards the conclusion, Dr Jackson says: "the researches of the present season have brought to light many important resources in the public domain which were before unknown. Beds of iron ore of immense magnitude favorably situated for advantageous operations occur on the Aroostook, and all the marked characteristics of the regular coal formation exhibit themselves over a great belt of country from the Schoois to the Aroostook and St. John, and extend to the Temmiscouta lake near the frontier of Canada. It will be at once perceived, that the country which we have explored is a most valuable territory, possessing every advantage required by settlers Heavy timber offers a reward to the enterprising lumber dealer. A rich soil capable of producing an average crop of 20 bushels of wheat to the acre, and in some cases producing from 30 to 40 bushels, offers an ample reward to the husbandman. Inexhaustible supplies of limestone, valuable both for building materials and for agriculture, vast and inexhaustible mines of rich iron ore, amid interminable forests which will furnish an abundance of charcoal, required for the manufacture of the finest kind of iron and steel—the country presents every natural advantage that might be required to call forth the enterprise and industry of the farmer and manufacturer."

By an inspection of the map of Maine, it will be seen that there are nearly one hundred townships of land situate on the Aroostook river and its tributaries, one half of which belongs to the State of Maine and is now open for sale and settlement under the new land law. Considering the remarkable fertility of the soil in this region, and the high price of produce, and the ready market which it finds among the lumbering people on the Penobscot and St. John rivers, and the advantages of the road now making by Maine and Massachusetts into this region, it is believed that an uncommon opportunity is now offered to persons who may feel desirous of obtaining good farms at a low price.

The field notes of the surveys of all these townships are in the Land Office, open to the inspection of every person, and all information that may be received here, from time to time, from the progress of surveys, and the reports of Agents, will be cheerfully given to all inquirers, and every facility granted within the means of this office, to secure to individuals and companies, all the benefits and privileges intended by the Legislature, for actual settlers under the provisions of the following law.

ELIJAH L. HAMLIN,
Land Agent of Maine.

STATE OF MAINE.

In the year of our Lord one thousand eight hundred and thirty-eight. An act additional to promote the sale and settlement of the Public Lands.

SECTION 1. *Be it enacted by the Senate and House of Representatives in Legislature assembled*, That all lands lotted to settlers shall be sold to those only who will perform settling duties on the same as prescribed by law, the price to be fixed by the Land Agent, having reference to the field notes, not however at a less price than fifty cents per acre; three fourth parts of said price to be paid within three years from the time of said sale in labor to be laid out in making roads in such township where said lands so sold are situated, under the direction of the Land Agent; and the remaining fourth part to be paid in cash within four years from the time of said sale.

SEC. 2. *Be it further enacted*, That whenever twenty or a less number of individuals, shall each select a lot of one hundred and sixty acres of land in any township lotted for settlers, the same having no mill within its limits and shall give bonds satisfactory to the Land Agent, that they will within the term of three years from the time of said selection, erect in a proper and substantial manner, a saw mill and grist mill, on such lot within said township, as shall be designated by the Board of Internal Improvement, the same shall be entitled to a deed of such lot; and each individual shall receive a deed from the Land Agent for his respective lot, without any further consideration, conditioned however, for the performance of the settling duties required by law.

SEC. 3. *Be it further enacted*, That from and after the passage of this act, all acts and parts of acts inconsistent with the provisions of this act, be and the same are hereby repealed.

In the House of Representatives, March 23, 1838.—This bill, having had three several readings passed to be enacted. ELISHA H. ALLEN, Speaker.

In Senate, March 23, 1838. This bill having had two several readings, passed to be enacted.
N. S. LITTLEFIELD, President.

March 23, 1838. Approved.
EDWARD KENT.

Secretary's Office,
Augusta, March 26, 1838.

A true copy of the original on file.
Attest, SAM'L. P. BENSON,
Secretary of State.

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